

COLUMBIA UNIVERSITY

The Redevelopment of Industrial Land:

Interaction Between Policy and Private Development

Yuheng Cai (yc2927)

Advisor: Robert A. Beauregard

Reader: Xin Li

April 5, 2015

TABLE OF CONTENT

Introduction	2
Literature Review	3
Background	9
Chinese land policy.....	9
Shenzhen's land use dilemma and redevelopment policy	11
Research Design	17
Policy Transition: from Interim Provisions to Renewal Methods.....	20
Part 1 Redevelopment Project's Hardships	20
Part 2 Shenzhen Urban Renewal Methods.....	26
Case Study	30
Huaqiangbei IBZ.....	30
Bagualing IBZ	33
Comparing the advantages and disadvantages of two redevelopment process	35
Findings	40
Conclusion	44
Appendix	45
Bibliography	47

INTRODUCTION

For many East Asia countries, the fast growth of population has led to a boom of urban construction. China has already experienced a construction boom. New towns and special districts are constructed around mega-cities. However unlike the U.S or Australia, which have abundant land resources and a relatively small population, East Asia countries' per capita land area is limited. Because land is an important resource to house and feed people, countries like China have set upper limits on the land available for construction. For cities in those countries, unlimited growth is unsustainable and impossible. The state-land tenure gives territorial government much stronger influence over market oriented development and makes urban planning a powerful tool in urban development. How can urban planning make better use of inner city land to ensure the creation of new jobs, the construction of new residential unit and the preservation of open space? These are important issues to consider.

Redevelopment is one solution. Due to the influence of political factors or the development pattern of early Chinese cities, many industrial business zones are located in the downtown area. However with the growth of the city and the development of the city's commercial and service industry, factory owners soon realized that their businesses are surrounded by office buildings and shopping malls. With more and more severe truck traffic restriction and noise control, many of them choose to move their factories to suburban areas or other cities. Redeveloping those industrial lands releases city's lands' development potential and creates job opportunities. Cleared property also makes redevelopment work more smoothly.

In this thesis, through comparing two redevelopment policies, the Interim Provision and Renewal Methods, I hope to understand how redevelopment policy can help in accelerating redevelopment guiding industrial upgrading and solving the land shortage dilemma.

This study is based on the redevelopment activities in Shenzhen, China, a city with severe land supply shortage. Through comparing two redevelopment policies, the Interim Provision and Renewal Methods, this thesis hope to understand how redevelopment policy can help in accelerating redevelopment guiding industrial upgrading and solving the land shortage dilemma.

The analysis will be separated into three parts. First, the thesis will evaluate the hardships incurred by implementing previously proposed government redevelopment policy. Second, by comparing newly

proposed redevelopment policy to the old one, the actions government takes to relieve those hardships will be discussed. Thirdly, from two redevelopment projects case-studies, this thesis will evaluate both policy's advantages and shortages and discuss the essential parts still missing in the redevelopment process.

By studying the redevelopment process and the public private relationship in redevelopment, this thesis could be useful for future urban planners to understand how the redevelopment process works. Planners can understand intuitively through this thesis the impact different policies have on reconstruction projects.

LITERATURE REVIEW

REDEVELOPMENT AND URBAN RENEWAL:

The concept of urban renewal or urban redevelopment dates to the early 19th century. The terrible living conditions poor people had in slum areas attracted London sociologists' attention. They began a movement of social housing (Diniejko, 2010). Like what happened in New York City during 1940s and 1960s, slums in Lower East Side and Williamsburg were torn down and new public housings was constructed. The "tower in the park" style buildings as described in New York City Housing Authority (NYCHA)'s annual report increased the amount of residential units while at the same time bought sunlight and green space into those once-decayed areas. However physical improvement is just one benefit urban renewal can bring to a city. Urban renewal is not restricted to slum areas or residential areas.

Roberts (1999) has defined urban regeneration as:

comprehensive and integrated vision and action which leads to the resolution of urban problems and which seeks to bring about a lasting improvement in the economic, physical, social and environmental condition of an area that has been subject to change.

Urban regeneration is not just development targeted on demolishing blight areas but also a continual improvement. The improvement in a city's economic, social and environmental condition is as important as the improvement of its physical condition.

Many Chinese scholars have noticed these multiple influences that redevelopment project can make to a city. Chen (1980, p52) defined urban renewal as a metabolism. Redevelopment was seen as a tool to attract medium and high-income households. By pulling down deteriorated buildings and constructing new buildings, social vibrancy can be reconstructed. His study emphasizes urban renewal's economy impact. Wu (1994, p68) explained his idea about urban renewal in his history preservation plan of "Juer Hutong (Beijing)" that urban renewal should find a balance between development and preservation in order to keep the historical continuity of a city. One step further, Zhang (2004, p25) thought that urban renewal was no longer within the discussion of the rebuilding of physical environment or the design of building or neighborhood context. Urban renewal should be an implementing and management process which focuses on solving urban problems caused by urbanization. Yu (2006) explained in his blog that besides the emphasis on improving the physical environment, more important is the improvement of non-physical structure in order to achieve a district's prosperity. The reconstruction of neighborhood social network, the development and renewal of biological environment and visual environment are as important as the improvement of physical structure. Besides the improvement of physical environment, social environment also needs to be improved. An urban renewal project is not only about the replacement of deteriorate buildings but also about the improvement of infrastructure and the revitalization of culture and social networks.

INDUSTRIAL LAND REDEVELOPMENT:

While scholars like Wu(1994) focuses on urban renewal's influence on the reconstruction of neighborhood and community space, the definition made by Guangzhou Province Government showed

urban renewal is not only about the redevelopment of residential area. City village, commercial and industrial areas are also targeted objects.¹

In major Chinese cities, industrial land usually occupies almost 20% -30% of the total built-up area (Ding, 2003). Today's mega-cities like Shanghai, Beijing and Shenzhen all used to be industrial cities. The redevelopment of deteriorated industrial lands occupies a large portion of the total amount of redevelopment lands. Zhou (2005,p67) separated industrial land redevelopment projects into four categories: First, changing into a different industrial use. Through redevelopment high-tech companies can replace local low-end manufacturing companies. Second, changing into housing. Through redevelopment, factory buildings can transform into residential units. Thirdly, changing into a mixed-use district. Residential and commercial buildings are added to industrial areas while factories in those industrial areas keep their normal functions. Fourth, changing into commercial and public facilities. New Office building, sports facilities and parks can be built through redevelopment.

While strongly influenced by post-industrial redevelopment strategy like SoHo district's redevelopment or Manchester's industrial business zone's redevelopment, Chinese industrial redevelopment is focused on the development of creative industrial park or the protection of industrial heritage. Yu and Pang (2002) explained the choice they made when they create a plan to redevelop an industrial heritage from a design perspective.

Since those industrial lands are not abandoned, stakeholders representing the deteriorated industrial land will play a role in the redevelopment process. Besides physical design, stakeholders' interaction in this process is worth studying. As Jiang, Chen and Ma (2011) showed, the redevelopment of Shanghai's

¹ "Opinions on promoting the 'three old' redevelopment" 关于推进“三旧”改造促进节约集约用地的若干意见 粤府〔2009〕78号

“Xintiandi Square” project is a result of the tripartite interaction among government, developer and residents. Government’s motivation for redeveloping those industrial lands and allocating factories was to promote a more efficient use of land. The developers’ motivation was to earn a higher profit. And residents want to keep their memory about their neighborhood.

INDUSTRIAL LAND REDEVELOPMENT UNDER CITY'S ECONOMIC STRUCTURE TRANSITION

Zhou (2010) did a study of Beijing’s industrial land redevelopment. In the study he compared the proportion of industrial land to the total amount of construction land in year 1989 and year 2003 and pointed out that industrial land was a major land supply source for urban development. Industrial land has a clearer and simpler land use right of ownership than land in urban villages. And through selling their land use right to real estate development companies, factory owners can get enough money for relocation and technology updating which constitutes a win-win situation for both city and industry. Zhou (2005) analyzed the background of Beijing’s urban redevelopment. As the political, economy and culture center of China, Beijing wants to transfer its industry from raw material processing to high-tech industry that has a higher industrial value-added. Industrial land redevelopment is a good opportunity to upgrade the whole industry. Based on Beijing’s future development direction, Zhou (2005) suggested during the redevelopment process that government should play a main role, developing institutions should be a combination public and private sector, and social justice and public participation should be a major part of this process.

What Zhou(2010)’s article did not mention is how government can participate. The relationship between government and the factory owner is not as simple as the relationship between landlord and tenant. As Ding (2003) explained, all factories that opened before 1978 received their land through administrative transfer. Due to Constitutional restriction, land ownership and the use of land are separated. For many factory owners and private owners, their land use rights are close to the expiring date and that gives the

government stronger power to influence the redevelopment process because local government has the right to decide whether the land owner's contract can be renewed. The land ownership issue also makes a deeper study about government's strategy and its effect on industrial redevelopment important.

LAND USE EFFICIENCY: LOCATION AND LAND VALUE:

Industrial land redevelopment and transition can be seen as a relocation of the land function. Alonso (1964)'s bid rent function explained a pure market-oriented land distribution. In a flat mono-centric city, retail has the strongest power to pay their rent and thus locate in the center of the city. Unable to compete with retail industry, manufacturing industry and wholesale industry are forced to locate away from central city. Guided by the market, every industry will move to the location where it can make the most profit and the whole city will achieve an economically efficient distribution.

Although all industrial functions seem to be under good control in the free market, Alonso's model was set-up with two ideal preconditions. One is a relatively stable local land market which doesn't fluctuate after reaching equilibrium. However as Bourne (1971) explained, the location of commercial and industrial companies is not a status quo but a dynamic adjustment process. He used "succession" to define the parcel-to-parcel change of land or building functions. The scale of succession can change when land requirements increase or when large multi-purpose developments in the central city become common. Although the tendency Alonso (1964) explained won't change, as Bourne (1971) showed, the transition process can vary and it was unclear where the equilibrium was. So a measurement of the existing land use efficiency would be useful for comparison.

The other ideal precondition is a single market oriented land distribution system. Chan (2011) concluded there were three other factors that influenced the location decision: technological factors, political factors and social factors. Ning (2000) indicated the government's intervention was an inevitable factor that influenced urban spatial structure change, especially in China. With the influence of multiple factors,

land use efficiency is not as easy to achieve as in Alonso (1964)'s model. Based on her study of Shanghai's service industry and its office buildings, Ning (2000) pointed out that in several existing CBD areas due to developers' over-positive expectation of office building demand, the supply of office building is exceeding a reasonable amount, the building vacancy also leads to an inefficient use of land. She suggests government should strengthen its regulatory power to control the excessive growth of office buildings.

From an intensive land use prospective, Wang and Ji (2008) pointed out the current measurement of per unit area of land in the degree of integration of capital and labor is not always a good way to measure land use efficiency when making industrial development decisions. The diminishing marginal benefit of extra input showed the integration of capital and labor is not always the more the better. Social index like population density and environmental index like the percentage of open space needed to be included in the indicator system.

In the redevelopment process new construction always has a higher integration of capital, but, compared to its previous land function, whether it increases the amount of job or improves the surrounding environment is unknown from simply comparing the construction densities or capital density before and after redevelopment. Besides the free market, government regulation also plays an important role in the redevelopment process. During redevelopment, government regulations guide the redevelopment to a both economically efficient and environmentally and socially friendly land use and is also an important supplement to the industrial land redevelopment study.

BACKGROUND

CHINESE LAND POLICY

The concept of land ownership is quite different in China than in U.S. is quite different. The 1982 Amendment of Chinese Constitution separated all land in China into two categories: urban land and rural land. As defined by the first “Land Management Law (1986)” urban land is owned by the state while the rural land is owned by peasant collectives. Under the Planned Economy, state-owned land can be used for free for an unlimited time. But the land use right is nontransferable. The 1988 Amendment of both the Constitution and the “Land Management Law” enabled the transfer of land use right. Straight after the Amendment is the issuance of “Interim Regulations of the People's Republic of China Concerning the Assignment and Transfer of the Right to the Use of the State-owned Land in the Urban Areas (1990)”. It allows the state, as the owner of the land, to assign time-limited land use right to the land user. During the assignment, a land use contract will be signed indicating the land’s designated use and time limit. While it also allows the transfer of land use right between land users, these transfers will not influence the terms indicated in the initial land use contract.

This Interim Regulations is crucial to urban redevelopment because it allows the state, under certain circumstances, to take back land use right before its maturity and compensate related contract holder. The amount of compensation is calculated based on the use years left and the development condition. Since the ownership of the ground structure is connected with the ownership of the land use right, every ground structure owner is a contract holder of the land use right and thus is eligible for compensation. Since land owners in China only own a time-limited land use right, they are closer to U.S. leaseholders instead of land owners. But consider the fact that they are allowed to lease their structures to a third party without transferring their land use right and thus those new tenants will not be eligible for

compensation. In this thesis we will still use “land owner” to define people that own the ground structure and hold the land use contract.

Industrial land owners, especially state-owned-enterprises (SOEs) are different from other land owners. Most of them received their land through administrative transfer, which means they received their time-limited land use right for little cost. Theoretically, municipal government do not need to compensate when taking land use rights back before maturity. While the Interim Regulations defined the land use contract should be signed between the state and the land user, it does not explain clearly whether the territorial government have a total control of the urban land within its jurisdiction. Since many SOEs belong to State agencies they are beyond the territorial governments’ control. Before 1998, because of their higher administrative rank, they were de facto “owners” of the land. Besides having the land use right, they also maintain the right to exchange and transfer the land. Even before the Interim Regulations, some SOEs already started their purchase and transfer of land use right. Until 1998, the revision of Land Management Law stipulated that all land received through administrative transfer must first be transferred to the municipal government before been leased out to developer and municipal government for the first time have a total control of the purchase and transfer of SOEs land.(Hsing, 2010) Because of the land use right transfer happened before and after 1998 and the restructure of SOEs in the late 1990s, many land’s land use right which used to be owned by state entities are held by private entities and municipal government needs to compensate for taking them back.

SHENZHEN'S LAND USE DILEMMA AND REDEVELOPMENT POLICY

This thesis's study area is Shenzhen. It is a major city in the south of China's Guangdong Province, situated immediately north of Hong Kong Special Administrative Region. It has a population of 10,357,938² and ranks third among all Chinese cities in annual Gross District Production.³ This city has China's first and one of the most successful Special Economic Zones (SEZ). The SEZ was created in 1979 to be an experimental ground for the practice of market capitalism within a community guided by the ideals of "socialism with Chinese characteristics". Two administrative boundaries were created at that time. The first line is the territorial boundary between Shenzhen and Hong Kong. The second line is the border between Shenzhen and mainland China.

These two lines still exist today but Shenzhen's jurisdiction already crosses them as can be seen in Figure 1. The area outside the second line which belongs to the Shenzhen government is called "Outside Gate" (OG). The area between the second line and the first line is called "Inside Gate" (IG). IG has more tax incentives for foreign investment than OG so foreign capital investments usually prefer to go to the IG. Nowadays the difference in capital investment between IG and OG has led to a district development gap between these two areas.

² http://www.sztj.gov.cn/xxgk/tjsj/pcgb/201105/t20110512_2061597.htm

³ http://blog.sina.com.cn/s/blog_6441f6930101iqzy.html

Figure 1 Shenzhen OG and IG area



Bao'an District and Longgang District, which used to be Outside Gate, were added to Shenzhen City's jurisdiction in 1992.⁴ This combination added 107.13 sq mi of new construction land to Shenzhen City.⁵ However among the total 206.77 sq mi of land, the SEZ only covers 99.64 sq. mi.⁶ Due to the lack of land for development, Shenzhen applied to the State Council several times for the expansion of SEZ but was turned down. In 2010 the State Council agreed to include OG into the SEZ but kept the tax incentive policy inside the IG. This doesn't change the policy affiliated with IG's land.⁷ To better develop its service industry and headquarters economy Shenzhen needs to have a more efficient use of land inside the IG. The Shenzhen Comprehensive Plan (1996-2010) proposed a new land policy. The development pattern would be changed from extensive growth to intensive growth due to the structural transformation of

⁴http://wapbaike.baidu.com/view/758335.htm?uid=bk_1342570987_703&bd_page_type=1&st=1&step=2&net=0&

⁵ Shenzhen Land Change Survey 2007 http://www.szpl.gov.cn/xxgk/tdgl/tdbgdctj/200810/t20081015_35206.html

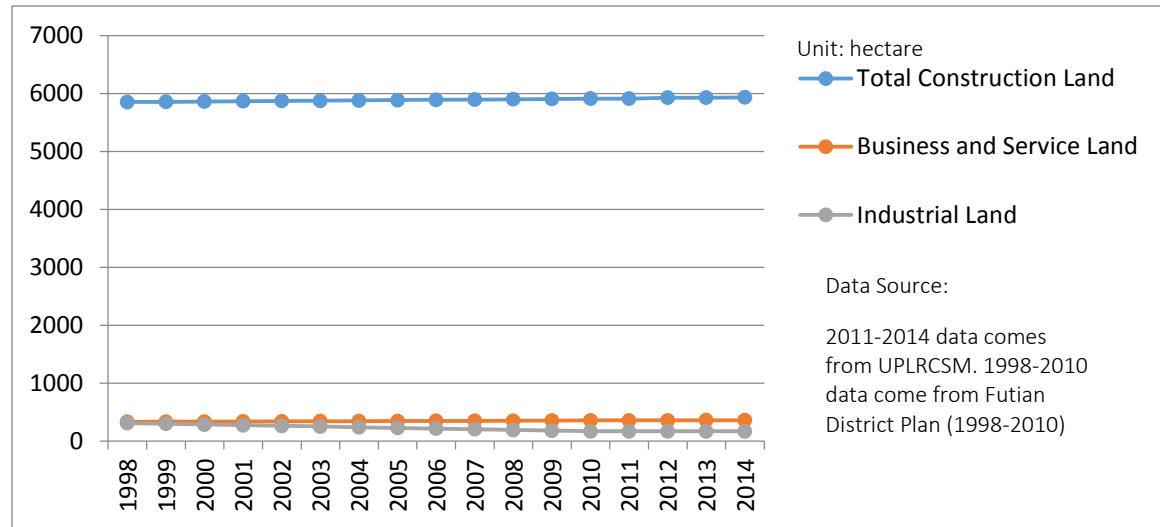
⁶ Shenzhen Land Change Survey http://www.szpl.gov.cn/xxgk/tdgl/tdbgdctj/200810/t20081015_35206.html

⁷ Before State Council's permission Shenzhen had to use two institutions for land in IG and land in OG because IG is under the control of special market capitalism. After the permission all Shenzhen jurisdiction can use the same institution which has already been used in IG. But special tax incentives like 《国务院关于经济特区和上海浦东新区新设立高新技术企业实行过渡性税收优惠的通知》 are only effective for IG companies.

<http://news.sina.com.cn/c/2010-06-02/160320397232.shtml>

city's economy.⁸ But in 1998, when the Urban Planning Land and Resource Commission of Shenzhen Municipality (UPLRCSM) first came up with the idea in the Futian District Plan that Shenzhen should be developed in a more compact way, not much developable land was left inside the IG.

Figure 2 The change of land volume in Shenzhen



	Total Buildable Land (ha)	Added Land(ha)	Redeveloped Land(ha)	Business and Service land(ha)	Industrial Land(ha)
1998	5851.73	-	-	331.44	309.56
2010	5909.38	57.65	-	355.48	167.71
2011	5911.45	2.07	-	356.48	168.71
2012	5926.45	15	36	357.48	168.71
2013	5928.45	2	22	358.48	168.71
2014	5931.45	3	-	-	-

As showed in Figure 2 and the table, unlike Bao'an or Longgang there is only a slow growth of the total amount of construction land used in Futian in the past 16 years. In the year 2012, only 15 ha. of new land were added to the total construction land. In 2013 this number fell to 2 ha. While the total amount of construction land increased only 1.4% the Business and Service Land increased 8.2%. Industrial land has

⁸ Shenzhen Comprehensive Plan (1996-2010) http://www.gdcic.net/HTMLFile/shownews_messageid=91555.html

decreased by 45.5%. 16 years of economic transformation has turned Futian into a center of modern service industry. Existing industries are gradually upgrading. Take the change of service industry as an example. From Figure 3 we can see service industry production contributed to more than 92% of GDP in 2012 while in 2005 it counted 68% of GDP. The growth of service industry has also stimulated the growth of the real estate industry, especially the construction of residential and office buildings. Figure 4 shows that although there is a slight decline of the annual increment of office buildings, it still has a high occupancy rate. Almost all newly constructed office buildings are occupied. With the continual growth of GDP and service industry production, more service land is needed for new companies entering Futian and for existing companies to expand their businesses.

Figure 3 Shenzhen GDP and the growth of its service industry

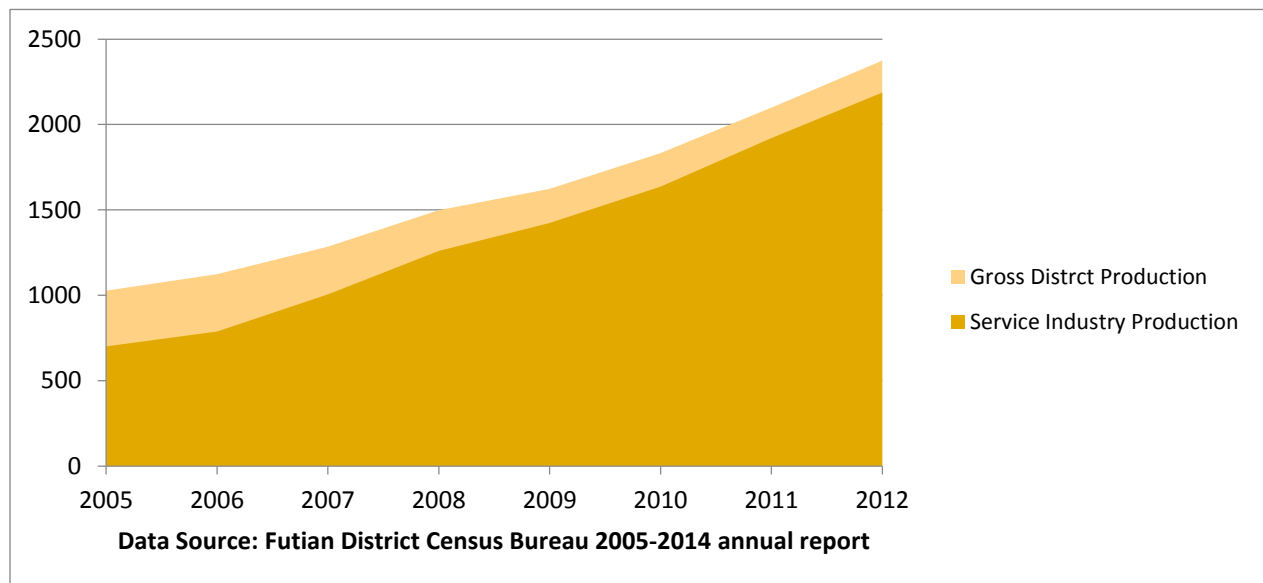
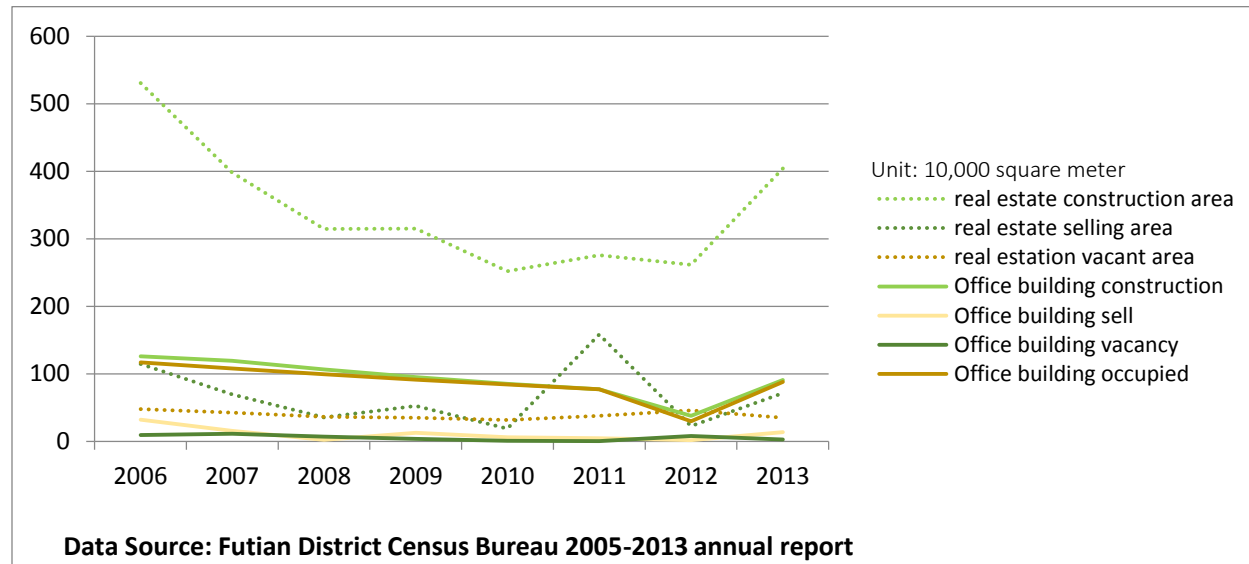


Figure 4 Real Estate Construction Increments (Built Space)



What the Shenzhen and Futian governments propose is the redevelopment of city villages and industrial land in order to correspond to both the increasing demand for residential, commercial land and high-tech industrial land and the shortage of available land for construction. In 2002, the Shenzhen government published the “Shenzhen Urban Village Redevelopment Interim Provisions” (Interim Provisions), first officially permitted redevelopment activity within the Urban Village boundary. In the following years, industrial business zones (IBZs) inside IG were also included in the redevelopment.⁹ In year 2007, the city government issued “Several Opinion about the Improvement and Transformation of Industrial Business Zone (SOITIBZ)”.¹⁰ In SOITIBZ, it listed in several situations independent IBZ is qualified for improvement. IBZs that do not fit industrial plan and modern industry development or do not fit safety and environmental protection requirement or have low FAR or has obsolete buildings are eligible for redevelopment. Besides rebuilding factories, improving its production facilities, SOITIBZ also allows the

⁹ Shenzhen IBZ’s future direction <http://mall.cnki.net/magazine/Article/TQNN201204006.htm>

¹⁰ <http://blog.fang.com/30293021/17231250/articledetail.htm>

transformation of parts of the land for headquarters economy or service industry that is relevant to IBZ's industry. In 2009, the "Shenzhen Urban Renewal Methods" (Renewal Methods) was published. As an alternative policy to the Interim Provisions, it continues to promote redevelopment in Shenzhen. Through redevelopment, Futian is planned to transform from 150 ha of old IBZ land to headquarters economy or service industry land. As Futian District manager described this amount of land would be enough to solve the land shortage issue.¹²

Figure 5 Shenzhen Redevelopment Related Policy

2004 ---- Shenzhen Urban Village Redevelopment Interim Provisions (Interim Provisions)

《深圳市城中村（旧村）改造暂行规定》

2005 ---- Shenzhen Urban Village Redevelopment Comprehensive Plan

《深圳市城中村（旧村）改造总体规划纲要（2005-2010）》

2007 ---- Several Opinions about the Improvement and Transformation of Industrial Business Zone

《深圳市人民政府关于工业区升级改造的若干意见》

2009 ---- Shenzhen Urban Renewal Methods (Renewal Methods)

《深圳市城市更新办法》

2010 ---- Shenzhen Urban Renewal Special Plan

《深圳市城市更新（“三旧”改造）专项规划》

2012 ---- Renewal Methods Detailed Rules

《深圳市城市更新办法实施细则》

As can be seen in Figure 5, the Shenzhen's redevelopment policy has developed gradually. This thesis will mainly focus on discuss redevelopment policies: "Shenzhen Urban Village Redevelopment Interim Provisions" (Interim Provisions) and "Shenzhen Urban Renewal Methods" (Renewal Methods).

¹² Futian plans to redevelop 8.75 million square meter of old IBZ for headquarters economy.
<http://sydc.sz.fang.com/2012-05-16/7678392.htm>

RESEARCH DESIGN

My analysis about industrial land redevelopment will be separated into three parts. First, the hardships that the Interim Provisions created for redevelopment will be discussed. Second, by comparing the situation government, developer and land owner are facing before and after the implementation of the Renewal Methods, the new policy's improvement will be analyzed. Third, two case studies will be used to illustrate the previous policy and the new policy's advantage and shortages. To accomplish those goals, this research collected redevelopment permitting process information, government's incentive to industrial upgrading, land use information, economic data, and social data from government websites and official open datasets. Information about the development process was collected from local newspaper and website. Interviews or email communication to planning professionals and government officials were conducted. Additionally, site visit were a minor part of the research to get a firsthand visual expression.

Task1: collecting information from government website or official open database.

Information about the redevelopment permitting procedure was collected from government website www.szpl.gov.cn. Shenzhen Department of City Planning (SZDCP) has the largest power in controlling this process. The regulatory plan (similar to zoning) created by SZDCP controls the total amount of construction land available for different land use functions and the allowable construction density. The redevelopment permits it grants are crucial for industrial land redevelopment. In this part, two permitting processes' information were collected. One is the process that industrial land redevelopment had to follow before the Renewal Methods. The other is the process that redevelopment projects needed to follow after the Renewal Methods. This information helped to evaluate what hardships the previous redevelopment process had created for government, developers and land owners. By comparing these two procedures, this study measured whether the new policy had relieved the hardships that government,

developer and land owners were facing or not. It showed whether governments' policies help increase the supply of commercial lands.

Information about land use like the total amount of constructible lands, the amount of redevelopment land, the construction density change before and after redevelopment, and the percentage of open space were collected from Shenzhen planning department's website. Economic data and social data including Gross Domestic Product in different industry, number of locally registered service company were gathered through Futian District's Census Bureau's Annual Report and its official database "Futian Government Online"¹⁴. These data were used to exhibit the land supply dilemma Shenzhen city government and Futian district government are facing.

Task2: collecting information through newspaper and website

Information about redevelopment projects was collected from local newspapers and websites. The newspaper articles related to redevelopment are used as descriptive material to explain the city's political atmosphere towards redevelopment and to prove the hardships created by the previous redevelopment policy and the relief new policy provides. Besides a city dimension study, this task looks into two specific redevelopment projects: Huaqiangbei and Bagualing IBZ. Information like the redevelopment process these two projects are taking, relationship among developer, government and land owner, the pre-existing industry and its influence to local residents and how the new industrial function can be connected to city's industrial upgrading were collected. Through this task, the research illustrates the procedures these two redevelopments are taken and analyzing why different policies are implied in different site and summarize each policy's advantages and shortages.

¹⁴ www.szft.gob.cn/zf/zwgk/tjxx/

Task3: collecting information through interviewing urban planning professionals

In this task I conducted three face-to-face interviews in Shenzhen with Shenzhen urban planning professionals and city officials in charge of redevelopment issues. Through the interviews, questions were asked around the redevelopment permitting procedure and the redevelopment project they participate in. The interviews sought answers for the following questions: How planners from an applicant side usually deal with the procedure? What factors do city officials concern? Do they think the pervious or existing permitting processes create a large barrier to redevelopment or not? How do they judge government's new policy in promoting industrial land redevelopment? What do they think is the advantage and shortage of the existing policy and the policy before? How do they look at the impact government policies have on developers and land owners? Detailed interview questions and schedule can be found in the Appendix. Information collected from those interviews helped me to better understand these two policy's administration procedures. They were used as supportive material for evaluating government policy's effect on promoting land function transition and industrial land redevelopment. It is also used in describing the relationship between developer and government from a planner's view. By contacting those interviewers researcher also get detailed redevelopment plan about Huaqiangbei IBZ and Bagualing IBZ.

The methodology obtained an approval from the Institutional Review Boards of Columbia University valid from Dec 16th 2014 to Dec 15th 2016. Interviews were conducted anonymously.

POLICY TRANSITION: FROM INTERIM PROVISIONS TO RENEWAL METHODS

PART 1 REDEVELOPMENT PROJECT'S HARDSHIPS

Shenzhen's urban redevelopment policy can be separated into two periods: the policy before and after 2009. In 2009, the Shenzhen government published the "Shenzhen Urban Renewal Methods", creating a new redevelopment pipeline that is totally different from the previous redevelopment policy and redevelopment policy in other cities.¹⁶ The new policy has been seen by many planners as a solution to Shenzhen's land use dilemma and has relieved the pressure that the Shenzhen government, developer and land owners had when enforcing the old redevelopment policy.

Shenzhen's urban redevelopment starts from the 1990s.¹⁷ Empowered by "Shenzhen Urban Village Redevelopment Interim Provisions (2004)"¹⁸, the Shenzhen government started collecting land from land owners in urban villages and invited developers to bid for redevelopment rights. The interim provisions required the government to make the redevelopment plan, identify the project's boundaries and then invite developers to participate. Sometimes, the government would be in charge of the demolition and compensation process and resell land development rights on the secondary land market through auction. But because of a lack of real estate operation experience and the unwillingness to trigger civic movements, the government made deals with developers, selling the land at the benchmark premium, almost 1/10 of the market price, and let the developer do the demolition and relocation compensation. The developer was also in charge of constructing the new buildings. According to this provision, the main

¹⁶ Shenzhen Urban Renewal Methods (2009) 《深圳市城市更新办法（2009）》

¹⁷ <http://finance.sina.com.cn/china/dfjj/20150225/081821588586.shtml>

¹⁸ Shenzhen Urban Village Redevelopment Interim Provisions 《深圳市城中村（旧村）改造暂行规定》

compensation to the land owner is cash. Only a limited amount of newly constructed housing area can be compensated to the previous land owner.

Although local developers like Kaisa, Excellence Group (Shenzhen) and Kingkey Group participated in the redevelopment process, the high risk caused by astronomical compensation fees and complex property rights pushed real estate magnates away from the market.²⁰ In order to ensure profitability, local developers would combine medium-density luxury apartments with high-density market-level housing and provide low-quality housing to the previous land owners. The financial limitation of local developers also made large redevelopment projects hard to enforce. Even though the Shenzhen government was willing to redevelop those projects, they could not afford the compensation fee to the land owner needed for such a large redevelopment area. Dachong community, a redevelopment area designated in 1998, had been fallow for 10 years because neither the developer nor the government could afford to pay compensation.²¹ While the government was trying to avoid conflict in the demolition process, its tolerance became the land owners' bargaining chip when negotiating with the developer for compensation.²²

The implementation of the interim provisions gave government the right to do urban redevelopment but, with a lack of redevelopment experience, this policy caused hardships to government, developers and land owners.

²⁰ <http://m.news.leju.com/default/detail/content?id=5968928977464020651>

²¹ <http://blog.people.com.cn/article/1339822948277.html>

²² Because Shenzhen government did not adopt the compulsory relocation that has been used in other cities in China, in Gangxia redevelopment project, it took years for developer to negotiate with only a few land owners and the delay of the redevelopment project has been seen influenced the host of the Universiadad.

Figure 6 Different Stakeholders' hardships

Developer:	Government:	Land Owner:
<ul style="list-style-type: none"> • Skyrocket Compensation Fee • Uncertain amount of time need to spend on land assemblage 	<ul style="list-style-type: none"> • Hard to find developer • Expense for infrastructure improvement • High administrative cost 	<ul style="list-style-type: none"> • Lose stable income • Unable to share the value-added through redevelopment

Developer's Hardship:

The developers are the most direct participants. According to the interim provisions, they will pay for the compensation, demolition and the purchase of the land at the initial phase of the project. They will also continue their investment and manage the new construction before they can earn profit from the redevelopment. Even though redevelopment has been seen as a lucrative business, since it only needs to compensate the land owner at a pre-redevelopment market price and the land often can be sold at a higher than average market price due to its good location, the uncertainty in land accumulation still makes it an unbearable risk for many developers.

In the Caiwuwei redevelopment project (Shenzhen, 2007), Kingkey Group, the developer in full charge of the financial center, spent two years assembling all the land development rights within the project boundary. The compensation fee they paid to the last six land owners was 21,800 RMB/m² while the market price at that time was only 10,000RMB/ m². In order to ensure the construction start as scheduled, the developer paid large amounts of money to the remaining land owners.²³ Although the Kingkey Group still realized its expected profit, thanks to the increase of property value, this redevelopment project has largely raised local resident's expectation of compensation levels. More land owners started to ask higher than market rate compensation from developers.

²³ <http://finance.sina.com.cn/china/dfjj/20150225/081821588586.shtml>

Not all developers have had such a good expectation of their future sales revenue as the Kingkey Group. Local resident's wild speculations always lead to long-term bargaining and the developer has to suspend its construction plan before achieving the deal. The long wait can create huge risks to a real estate company which does not have a stable capital flow and this sometimes forces developers to abandon the redevelopment project.

Gemdale, a deep-pocketed real estate company, made a contract with Shenzhen government for the Gangxia redevelopment project in 2007. After four years of negotiation, a dozen buildings still could not be demolished. It took the company 700,000 RMB per day to pay its management fee for this single project. Although the developer maintains a good relationship with the local government, it has expressed its worry about the failure of the project.²⁴

The skyrocketed compensation fees and the uncertain amount of time needed to spend on land accumulation has forced many developers to turn to the land auction market for development rights. But with continuous unbearable high auction prices and a predictable decrease of the land supply in the land auction market, the hardship developers are facing forces them move to other cities.

Shenzhen Government's Hardship:

The initial motivation of Shenzhen's government to promote urban redevelopment is to relieve the land supply pressure. Although the real land supply decrease occurred in 2008 (Comprehensive Research Group, 2014), in 1998 the Urban Planning, Land and Resource Commission already predicted there would be a land shortage. After redevelopment, the Shenzhen government expected to release 50.57 mile² of constructible land (Comprehensive Research Group, 2014). Those lands will play a crucial role to

²⁴ <http://gd.sina.cn/?sa=d216639t564v2193&cid=1189&page=3&pwt=rest3&vt=3>

Shenzhen's future development. Qiren Zhou has done an analysis of the Shenzhen government's budget and the expected cost for accumulating those lands (Comprehensive Research Group, 2014). Since the majority of the compensation needs to be paid in cash, he concluded it is impossible for Shenzhen government to pay for all redevelopment projects. Developers' participation is crucial. While the interim provisions have forced many developers to move to other markets, it also gives government more pressure to find developers who are willing to take the risk.

Redevelopment also leads to an increase of population density and extra demand for public facilities and infrastructure. Although the interim provisions allocated the land occupancy charge to pay for the expense of public facility or infrastructure improvement, the government still needs to pay extra money to get new land to site those facilities. Since the interim provisions does not require developers to be responsible for those facilities, redevelopment and population growth puts extra burden on the city's finances.

As happened in many cities, the announcement of a redevelopment project always leads to irrational large-scale construction work on site that is going to be demolished. Since interim provisions state that only legal structures can receive compensation, people are encouraged to build as many houses as possible. This also increases government's administrative costs. Governments need to hire specialist to assess the legal construction area of each house. Security cameras and patrols have to be set-up to stop illegal construction (Comprehensive Research Group, 2014).

LAND OWNERS' HARDSHIP:

Many land owners in designated redevelopment areas are former farmers who have lived there long before the establishment of Shenzhen municipality.²⁸ For them, rent is a major income source. The interim provisions require major compensation be paid in cash. So, for many land owners, after redevelopment they will lose some of their stable income.

Also after passing through several housing price appreciations, land owners realized that, compared to the continual depreciating cash, land or houses are hard assets that can keep their value during inflation. Although a majority of developers are willing to pay a higher than market average price for houses, land owners are unwilling to sell them. In the Caiwuwei redevelopment project, even though some residents received 21,800 RMB/m² higher than average housing price, the final sale price for the new building could reach 50,000 RMB/ m².²⁹ While there is a chance for land owners to receive good compensation through bargaining, most land owners have realized that they will receive more benefit if they can obtain equity in the new building instead of receiving cash compensation. The hardship that land owners are facing makes it difficult for developers to make a deal with land owners and finish land acquisition.

Because of the hardships caused by the interim provisions, most redevelopment projects started between 2004 and 2009 have taken a long time to finish and the government didn't finish the redevelopment schedule in its redevelopment plan. In 2009, "Shenzhen Urban Renewal Methods" was published by Shenzhen government. A lot of redevelopment experiences had been collected during the past five years and the government hoped the renewal method could help not only it but also developers and land owners avoid those hardships and guide redevelopment in a more compact and efficient way.

²⁸ Based on the interview, there is no rural land inside IG area. City government already transferred them into urban land and the state became the real owner of the land. But mentally, city villagers still think they own the land and in reality, many city village land within the urban boundary are still under the control of the city village.

²⁹ <http://finance.sina.com.cn/china/dfjj/20150225/081821588586.shtml>

PART 2 SHENZHEN URBAN RENEWAL METHODS

A series of policies published between 2004 and 2009, incrementally changed Shenzhen's industrial land redevelopment process. The 2004's Interim Provisions first came up with a complete redevelopment process for the urban village which also worked for industrial lands within the urban village's boundary. 2006's "Treating advice for redevelopment projects" indicated that industrial zones have the same redevelopment rights as urban villages and should also follow the Interim Provision's redevelopment process.³¹ The "Several Opinions of Shenzhen Government on Upgrading Industrial Zone (2007)", which was published one year later, separated industrial land redevelopment from urban village redevelopment. It also provided special incentives for industrial land redevelopment projects aimed at industrial upgrading. Absorbing all the revisions, "Shenzhen Urban Renewal Methods" represented a new redevelopment process. Different from the Interim Provisions, the "Renewal Methods" expanded the redevelopment subject from urban villages to all qualified urban areas. Old industrial zones, business zones, residential zones and urban villages all can be redeveloped. It also includes multiple land price reduction incentives for different industrial upgrading.

The main innovation of this policy is that redevelopment projects are no longer planned by government in advance. Land owners or developers can submit their redevelopment applications and government is responsible for the review. The "Renewal Method" changed the traditional roles that government, developers and land owners play in the redevelopment process.

³¹ The full name is "Shenzhen Government's treatment advice on Bao'an and Longgang District 's 70 urban redevelopment projects(2006)" (深圳市人民政府关于宝安龙岗两区自行开展的新安翻身工业区等 70 个旧城旧村改造项目的处理意见(2006))

Government-From Director to Monitor

In the Interim Provisions' process, the Shenzhen government was responsible for setting up designated redevelopment areas and making a redevelopment schedule. Although there is still some negotiable space, the redevelopment boundary for each project had already been determined once the government published its redevelopment schedule. It was also responsible for the compensation and demolition process and selling the cleared land through auction. Sometimes it made deals with developers and let developers acquire land and do the clearance.

In the "Renewal Method", the government is no longer an active participant. Government is not responsible for identifying areas with redevelopment potential. It also has no direct influence in choosing the developer. The right it has is to review the redevelopment plan and provide suggestions. Since every redevelopment plan needs government approval to obtain redevelopment rights, the government can still influence the project, especially new construction. The Renewal Method has relieved government from direct participation in compensation and demolition. Government does not need to pay high administrative fees to monitor the redevelopment site.

The "Renewal Method" also requires each executor of the redevelopment project to negotiate with related city departments about the construction of affordable housing, infrastructure and public facilities. In the "Renewal Method Detailed Rules (2012)", it forces the redevelopment project to dedicate at least 15% of the redeveloped land to city government for the construction of public facilities.³³ This new requirement has relieved the government's pressure to construct supported infrastructure.

³³ 15% (30%) or no less than 3000m². This requirement is a tradeoff government made to deal with illegal land ownership. (Comprehensive Research Group, 2014)

The “Renewal Method” also expanded the redevelopment sites from only city villages to all qualified areas. This change increased the total number of sites available for redevelopment. Since 2009, for the first time, Shenzhen’s total land supply was below its total demand,³⁴ this change also provided stronger support for solving the land shortage problem.

Land Owner-From Peripheral Participant to Shareholder

In the “Renewal Method”, the land owner is no longer informed of land acquisition. In the Interim Provisions’ process their only role is to negotiate with the developer, selling their land to them and receiving cash compensation. But the new policy allows land owners to retain their development rights. The “Renewal Methods” gives them the right to apply for redevelopment. Although the redevelopment project has to be larger than 10,000 m² which means usually it is still impossible for one single owner to apply for redevelopment, it gives the land owner a powerful bargaining chip to negotiate and ensure their development rights. Since the new process allows only land owners and their representatives to apply for redevelopment projects, land owner’s participation and their willingness to do redevelopment are crucial to the success of the application. Usually a limited stock company will be created to manage the profit gathered from a redevelopment project. For those land owners who are unwilling to exchange their land for cash, they can use their land’s value to redeem an equity share from the redevelopment company.

Developer-From Manager to Contractor

In the old redevelopment process, the developer was responsible for assembling the land, demolishing old buildings and constructing new buildings. By making a deal with government, many developers obtained full control of the redevelopment projects. They were also responsible for the project’s delay expenses and negotiate directly with land owners about compensation. Land owners always want to get

³⁴ <http://news.qq.com/a/20091030/000556.htm>

as much compensation as possible from the developer while the developer needed to ensure his/her profit. So the conflict of interest between these two groups deepened their distrust and often led to a long and costly negotiation process. The negotiation is the most difficult part of the whole redevelopment and also the main reason forcing real estate tycoons away from the local market.

Since the “Renewal Methods” makes the land owner the applicant for the redevelopment project, developers no longer stand on the opposite side. Land owners can hire developers or work with them. There is no compensation negotiation necessary between developers and land owners because land owners are doing redevelopment under their own willingness and have equity in the redevelopment’s total profit. Also, since the land owners become the main beneficiaries, the delay of the project will severely influence their income. They will be responsible for their own losses in rent in the while in the Interim Provision process developer will buy out their house at the beginning. So, for developers, the risk they had before in the land acquisition process no longer exists.

By using the “Renewal Methods”, government, land owners and developers’ hardships have been relieved. But the “Renewal Method” also preserves the right for Shenzhen government to do special redevelopment projects following the Interim Provisions’ process. In other cities in China, the Interim Provision also showed its advantage in adjusting the city’s industrial structure through industrial land redevelopment. By controlling the land consolidation process before redevelopment, Shanghai’s planning department had successfully added additional requirements related to the new land’s function, redevelopment phases and the scale of the project (Li, 2005, P143). This helped them guide the redeveloped land into a more feasible and beneficial industrial function while at the same time controlling the whole district’s redevelopment schedule. However in the Renewal Methods process the government is already out of land assemblage. Thus it will be much harder for Shenzhen government to control these factors using the land auction.

In Huaqiangbei IBZ's redevelopment project, the Renewal Method process is used, but just half-mile away in Bagualing IBZ government selected the Interim Provisions process. Because of these two sites' specialty both processes have provided strong support for redevelopment and industrial upgrading.

CASE STUDY

HUAQIANGBEI IBZ



Picture Source: www.uutuu.com

Huaqiangbei IBZ, also known as Shangbu IBZ, is one of six initial industrial business zones created during 1980s. It is well-known for its active digital product market. In its 33 years of development, it has automatically changed its land use function to adapt to market demand and has been seen by many urban planners as a successful example of a city's spontaneous growth (Zacharias & Bliet, 2008).

Huaqiangbei has a total land area of 0.56 square miles. Its major industries were designated as electronic industry and light manufacturing industry (Huang, Mu, & Zhang, 2011). Eight State-owned enterprises, which belong to the Ministry of Machinery and Electronics Industry and the Ministry of Astronautics Industry, got their land through administrative transfer.³⁵ As can be seen in Figure 6, from 1982-1992, it retained its low-density industrial land feature. The average building height at that time was only six to eight-stories (Huang et al., 2011). Started from the mid-1990s, with Futian District being designated as the

³⁵ Eight enterprises are Saige 赛格、Huaqiang 华强、Zhonghang 中航、Shenfang 深纺、Laiyingda 莱英达、Huafa 华发、Sangda 桑达、Zhongdian 中电 http://biz.163.com/41113/7/1537AF8J00020QEO_2.html

third developing point besides Luohu District and Shekou District, the IBZ started to change its function to finance, securities exchange and office businesses. In 1988, the Shenzhen Electronics Group CO., LTD (SEG) changed the first floor of one of its 7-store office buildings into a wholesale market and industrial land owners started rent their factory space for retail and other commercial activities. With government's tolerance, the whole district started to change from an industrial-orient district to a commercial district (Huang et al., 2011). Around 2000, Huaqiangbei became a successful business center with 36 bank branches and 30 securities institutions. Before the publishing of policies related to land function transition and redevelopment, several land owners received a special permit from government to demolish their existing factories and build commercial buildings (Cheng, 2010). As can be seen in Figure 7, with almost 23 years of renewal activity and 15 years partial redevelopments, Huaqiangbei has changed to a highly mixed-used district.

Figure 6 Different Proportion of Land Function in Huaqiangbei IBZ

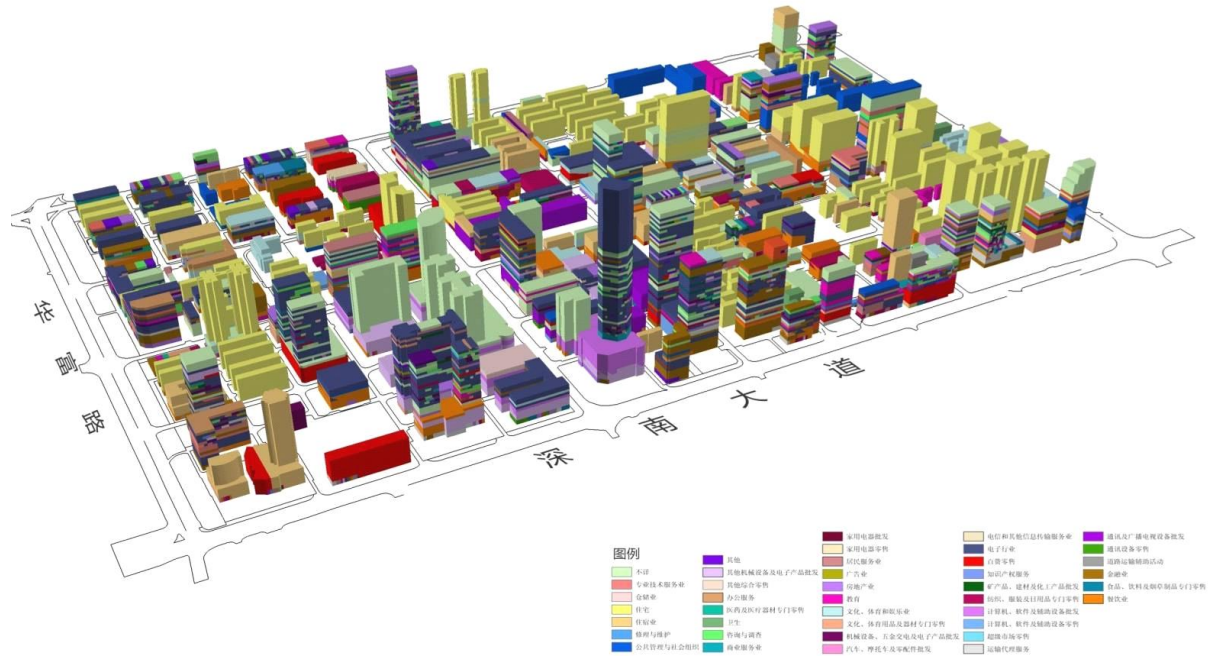
	Industrial Floor Area	Residential Floor Area	Commercial Floor Area
1982-1992	29.42%	16.7%	7.04% (only administrating offices)
1993-1999	11%	16.5%	23.4%
2000-2006	6.57%<	42.9%	50.53%

Data from (Huang et al., 2011)

In 2008, the Shenzhen government unveiled the “Shangbu District Redevelopment Plan”.³⁶ Under the guidance of the Interim Provisions, its innovation was in creating redevelopment units to control the total amount of incremental industrial area that was allowed in each unit (See Figure 8). With the publishing of Renewal Method in 2009, unit one, unit three, unit seven and unit fourteen all start their redevelopment following the new Renewal Method's process.

³⁶ http://www.szft.gov.cn/bmxx/qczcgzb/zwxxgk/gzzx/gzg/201107/t20110715_272205.html

Figure 7 Huaqiangbei Land Use in 2012



Picture source: Urban Planning & Design Institute of Shenzhen

Figure 8 the density control of each redevelopment unit



BAGUALING IBZ



Photo Source: site visit

Just 0.5 miles away from Huaqiangbei is the Bagualing IBZ. 104 acres of land was given to Pengji Industrial Development Corporation (Pengji) in 1982 through administrative transfer. Minus the land used for city roads, green spaces and public facilities, the total amount of usable land is 90 acres. Although 40 acres of land now belongs to 20 different owners, 50 acres of land,

mainly occupied by factory and dormitories, still belongs to Pengji.

The initial tenants of Bagualing IBZ were mostly electronic enterprises. After 1993, following city's industrial structure changing policy, those companies move out to Outside Gate areas. The printing and packaging industry has dominated the IBZ. Starting from the mid-1990s, with the city's development structure change, Bagualing begin to show its locational advantage. With the increase of production cost, land owners started to change factories into commercial and office buildings without the government's permission. In the past ten years, Bagualing's residential land increased from 10 acres to 23 acres. The residential floor area tripled from 200,000 m² to 600,000 m². One-third of the factories have been changed to commercial uses. Because of its relatively low-rent and good transportation condition, Bagualing is now a "hotspot" for wholesale. Catering and garment industries have also moved into this area.

In 1996, Shenzhen's comprehensive plan designated Bagualing IBZ and changed its function from an industrial zone to a zone mixed with commercial and residential functions. Those lands that are designated as residential land in the following regulatory plan quickly started to be upgraded. However

unlike what city government expected, the starting time of industrial lands' upgrading was far behind the residential redevelopment. In 2002, the new regulatory plan indicates the Bagualing IBZ will be redeveloped all together under the government's control. This means the redevelopment of the Bagualing IBZ will follow the Interim Provisions' process.

There are some similarities between Huaqiangbei IBZ and Bagualing IBZ's initial conditions. Both of them are formal industrial districts. Because of the change of city's physical structure, they all have strong locational advantages. In order to fit the market's demand, they all started their spontaneous land function transition process and illegally changed industrial land to commercial uses. But the redevelopment process government allows them to use are very different. The elective use of these two processes in two different areas reveals each policy's feasibility, their advantages and shortages.

COMPARING THE ADVANTAGE AND DISADVANTAGE OF TWO REDEVELOPMENT PROCESS

Huaqiangbei IBZ		Bagualing IBZ
Existing Industry	China's largest electronic trading market. Annual income exceeds \$100 billion	Building decoration material wholesale market. Small scale catering and garment industry
City's financial dependency	Strong. Provides \$17 billion financial income	Low
Land ownership	8 major land owners and large amount of legal and illegal land owners	Only one major land owner with 20 small land owners, 83% of the lands have legal owners
Land use right	Close to expire	Close to expire
development potential	Low. The existing site's building density is already very high	High. Most buildings are not exceeding 8 floors.
Community Power	Strong. Have Huaqiangbei business council	Weak
Interim Provisions		Renewal Methods
Guiding industrial upgrading	Strong	Weak
Influence to existing site activity	Large	Small
Dealing with Land assemblage	Weak	Strong
City's density regulatory power	Strong	Weak
Dependency of land owner engagement	Small	Large

Compare to Bagualing IBZ, Huaqiangbei IBZ's existing industry is strong and efficient. The spontaneous development that happened in Huaqiangbei already created a cluster of electronic product's research design and trade. As China's largest electronic trading market, the existing industry in Huaqiangbei is adaptable to the rising land price. Also as a matured high-tech industry, it fits Shenzhen government's industrial structure upgrading's ultimate goal. However even though Bagualing IBZ has also passed through its spontaneous development, the existing industry is wholesale building decoration material,

catering and garment. Since the wholesale mall requires a lot of horizontal space and garment industry needs large amounts low-cost labor, it will be hard for those industries to survive after redevelopment. Also they are not the industries Shenzhen government expects to retain in the industrial upgrading process. So for Bagualing IBZ the Interim Provisions process is better because the strong role government plays in this process can strongly guide industrial upgrading. In Liuxiandong IBZ (Shenzhen)'s redevelopment, Shenzhen government chooses the Interim Provisions process to guide the site redeveloping into a headquarter campus. Since the government plays a main role in land assemblage and resale, it has the power to choose the kinds of industry to be allowed in the IBZ. During the planning process, the city's industrial department made an industrial plan for the site and combined it with the planning department's redevelopment plan. Each neighborhood within the IBZ will have a planning goal and an industrial development goal. Then the city with contact with targeted enterprise and attract them to move in. In Liuxiandong IBZ, the city government use the land to buy a share from the enterprise and enterprise is only responsible for the cost of above-ground building (Huang, Li, & Dou, 2013).

While Interim Provisions is strong in guiding industrial upgrading it also takes a long time. Both the administrative proceedings and the requirement that whole blocks develop together limited the speed of redevelopment. For sites like Huaqiangbei, which provides \$17 billion tax revenue to city government each year, using the Interim Provisions process to develop will lead to a huge fiscal loss. Also the redevelopment opportunity for a high-growth neighborhood disappears quickly. Companies move in and out of the Huaqiangbei IBZ all the time. Large companies, like McDonald's, prefer long-term leases and while unknown when the redevelopment will start, land owner is unable to sign such a lease. So even a two-year wait could let the neighborhood lose its development opportunity. Compared to Interim Provisions, the Renewal Method is faster at responding to the market and has less impact on the existing site. Enterprises that rent space can contact directly with land owners. If the site is eligible for

redevelopment, all they have to go through is the application process. With government's permission, the redevelopment does not need to wait for the clearance of other land in the neighborhood. Also in recent years, Shenzhen government has lowered the threshold of redevelopment project from 10,000m² to 3,000m². Less land owner will be required to apply together. The changes also shorten the time need for the negotiation among land owner.

Besides speeding up the redevelopment process, the Renewal Methods is also strong in dealing with land assemblage. One of the reason Shenzhen government is confident in using Interim Provisions' process in Bagualing IBZ is because they have a clear documentation of the land ownership. Government can easily identify 83% of the land owners. Also there is only a limited numbers of land owners in Bagualing. Among the 83%, there is only one major land owner and 20 small land owners. Since all the land within Bagualing have different extent of illegal use, it is easy for Shenzhen government to follow the existing law taking land back after the land use right's expiration date. Although similar to Bagualing IBZ, Huaqiangbei IBZ's land is also close to its expiration date, due to historical reasons, besides the initial 8 land owners there are large numbers of unidentified legal and illegal land owners. If the government uses the Interim Provision process, it will take huge amounts of time and human resource to identify those owners. Also land owners might be unwilling to cooperate because, once being identified as illegal use, they will be unable to renew their land use contracts with city government. However in the Renewal Methods process, the land owner needs to prove to the government that s/he is the legal owner of the land when they submit the redevelopment application. Also the Renewal Methods commits to the land owner, after the redevelopment they can still retain their land use right after paying the new land use fee. By donating 15% to 30% of the redeveloped land to city government, the land owner can legally own the land no matter whether the land was an illegal use before or not. These terms that the Renewal Methods provides also

encourages owner to prove their land ownership. Thus the government selected Renewal Methods for Huaqiangbei IBZ.

In the Interim Provisions, the city retains a strong control of the new construction's building density because government will renew the zoning requirements to coordinate with the redevelopment plan. New land owners who purchase the land use rights from the city government will have to follow the new zoning. However in the Renewal Methods, the new construction's building density is negotiable between government and land owners. Even though there is a standard FAR cap in Shenzhen's comprehensive plan, the cap is still negotiable. Huaqiangbei IBZ has passed through several legal and illegal constructions and the existing site's building density is already very high. The limitation of public infrastructure and traffic pressure could give government a strong support to reduce the total amount of added construction space in redevelopment application. However in Bagualing IBZ, most buildings are not exceeding 8 floors. With a similar infrastructure support as the Huaqiangbei IBZ, the development potential of Bagualing is high. If using the Renewal Method, it could be difficult for government to limit the FAR proposed by applicants and the precious land development "quota" could be use up in just a few years. By using the Interim Provision, government can control the amount of development in each time period by controlling land auction and thus slow the density increasing and the consumption of land storage. So in Bagualing IBZ's redevelopment Interim Provisions is a better choice.

By giving the redevelopment right to land owners, the Renewal Methods requires a strong land owner engagement. Land owners have to work together to come up with an application and negotiate with the government. As described in Tao's book "Fu Street Modern "merchant tribe"", Huaqiangbei has a strong grass root business council. This council is a strong connection among land owner, tenant and

government (Tao, 2007). It already facilitated the infrastructure improvement in Huaqiangbei IBZ.³⁷ With the council's coordination, even though the land ownership is complicated, it is still possible for land owners to reach an agreement and submit application to government.

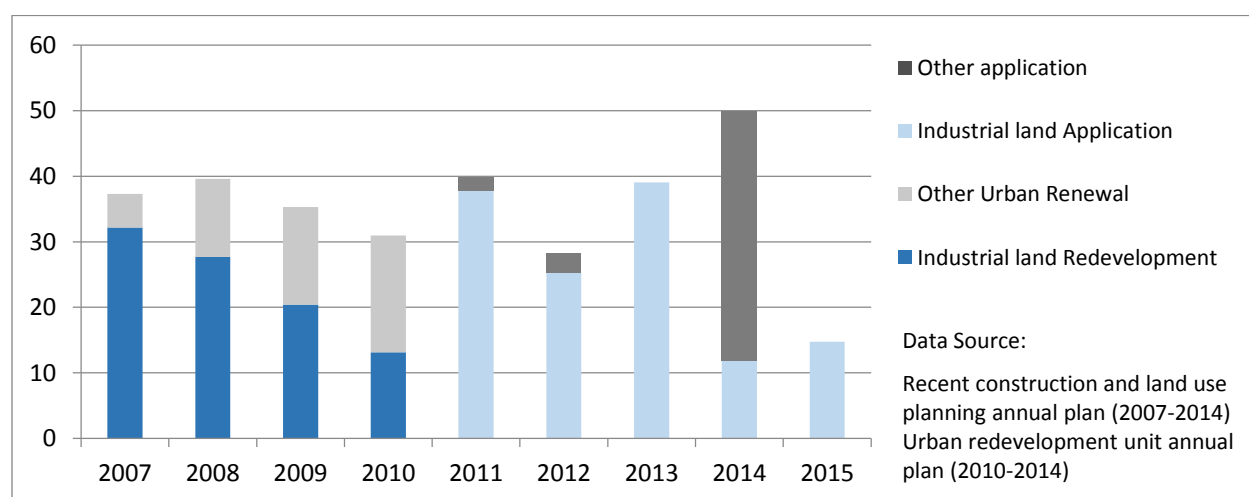
Considering Huaqiangbei IBZ and Bagualing IBZ's special existing condition, the redevelopment process the government chose for each site is based on the Interim Provisions and Renewal Methods processes' advantage and disadvantage. The Renewal Methods is no simply an upgrade of the Interim Provisions and the Interim Provisions process still has a reason to be retained.

³⁷ <http://news.sina.com.cn/c/2007-01-14/170010997483s.shtml>

FINDINGS

Analyzing from the Futian district prospective, as showed in Figure 9, after the implementation of Renewal Methods, there is a huge jump of the total amount of industrial land for redevelopment between 2010 and 2011. Before the publishing of the new policy in 2009, in fiscal year 2007-2010³⁸, there was a decrease of the total amount of industrial lands participating in city's redevelopment. The hardships created by Interim Provision could be the reasons that lead to the decrease. While in 2014 the 37.97 ha. Shangsha Urban Village takes a larger proportion of the total redevelopment that year, the general trend shows, after the implementation of Renewal Methods the industrial land owners exhibit a higher enthusiasm in applying for redevelopment.

Figure 9 Each Year's Total Amount of Redeveloped Land (acre)

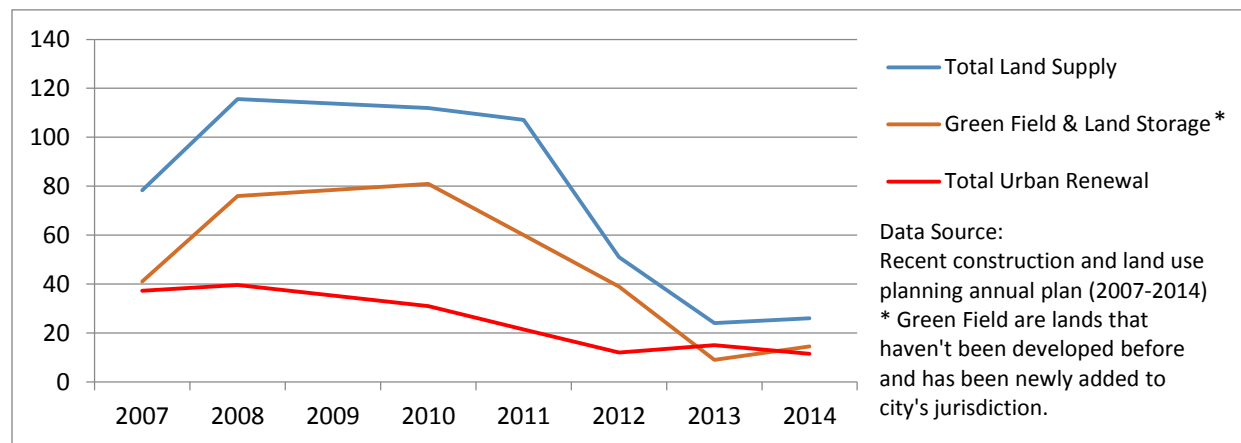


	2007	2008	2009	2010	2011	2012	2013	2014	2015
Industrial land Redevelopment	32.19	27.7	-	13.13					
Other Urban Renewal	5.1	11.9	-	17.81					
Industrial land Application					37.75	25.23	39.04	11.85	14.74
Other application					2	2.94	0	37.97	0

³⁸ The review and approval of redevelopment application following the Renewal Methods starts in 2010.

While it can be seen from Figure 10, even though for the first time, the total amount of land provided in urban renewal exceeded the amount of new land government provided to the market in 2013, the total land supply is still facing an unavoidable decrease. Although urban redevelopment after 2013 takes a main role providing space for new development, it is foreseeable that relying on redevelopment the city still cannot get the same abundant land supply they had in the 1980s and 1990s. The weakness that redevelopment policies have at generating new development space in the city, forces government in redevelopment process to take special attention to their tenant and the alternative industry. Both Interim Provisions and Renewal Methods have showed an ability to control that aspect.

Figure 10 Futian District Land Supply (acre)



	2007	2008	2009	2010	2011	2012	2013	2014
Total Land Supply	78.29	115.6	–	111.94	107.05	51	24	26
Green Field & Land Storage	41	76	–	81	60	39	9	14.5
Total Urban Renewal	37.29	39.6	–	30.94	21.47	12	15	11.5

The Interim Provisions and Renewal Methods can be seen as complementing with each other, but in practice, the switching of these two processes does not solve all problems. In the wave of urban renewal, Shenzhen still suffers from multiple unsolved problems.

1. Uncontrollable Increase of building density

While the Interim Provisions' process provides good control over building density, the number of projects using this process after 2009 is very limited. The Renewal Method gives a possibility for land owners and developers to negotiate with the government for higher density development rights. Even though there is a density control created by redevelopment units in Shangbu District Redevelopment Plan, the developers are still requesting higher FARs. In the end, the FAR has increased from 5.3 to 8.5 while the FAR before redevelopment was only 1.5(LTD., 2012). With a possibility to increase density beyond the regulation's control level and without custody of the total amount of new construction space added through redevelopment, both the Interim Provision process and the Renewal Method process contribute to the traffic congestion in central city.

To solve this problem, planning department or City Hall can control the total amount of construction added each year. While after the Renewal Methods government no longer designate redevelopment area, the total amount of new construction space can still be controlled through limiting the number of redevelopment permission granted each year. In the Renewal Methods' application process, city's urban planning department is responsible for the final review of the applications and reports them to the city hall for permission. During this process the planning department can control the number of applications that can be send to City Hall and the City Hall can limited the number of permission grated each year. Although the introduction of Renewal Methods process is to speed up the redevelopment, by limit the total amount of permission, it can in some extent limit the construction space added each year, leaving time for government to improve public infrastructure and transportation system.

2. Avoid the problem of illegal land use

Base on the requirement, the Shenzhen government had on "Several Provisions of Shenzhen Land Ownership (2004)", lands which transform its function without government authorization is not allowed

to renew their ownership. However based on the Renewal Method with a donation of 15% to 30% of project's land, the land owner can legally renew their land use right of the rest lands which has changed its function illegally. In the Interim Provision process, government just announced illegal land is not suitable for private redevelopment. Even though the Renewal Method seems to provide a direct response to illegal land's redevelopment problem, the 15% to 30% requirement is just a rough solution. It decreases the enthusiasm for legal owner to redevelop their land while at the same time increases the economic return of land owners with large amount of illegal land.

While the management of illegal land remains a highly difficult issue because it exposed the shortage hides inside Chinese land policy, several adjustment can be made in the redevelopment policy. Through the review process, by comparing with their existing record, city planning department can identify the percentage of legal land within the redevelopment area. When negotiate with land owner and developer, government can based on their records require the applicant which has high percentage of illegal land to provide more public benefit so as to compensate for its negative externality effect.

CONCLUSION

As the first Special Economic Zone in China, the development of Shenzhen keeps implementing new thoughts and providing mature experience for other cities. Prior to others, Shenzhen has already stepped into the dilemma of land supply shortage. Also a city wide industrial upgrading is necessary in order to keep its economic growth. Shenzhen's redevelopment is a solution Shenzhen government proposed in order to relieve the land supply pressure. Similar to US, the markets in land favor users who produce the highest economic return per square foot of built space. (Wolf-Power, 2010) By connecting redevelopment with industrial upgrading, the city also expects to create more development opportunities and economic return on the developed land. The Interim Provisions provides guidance to redevelopment projects between 2004 and 2009 while at the same time created hardships for government, developers and land owners. Being seen as a solution, the Renewal Methods was unveiled in 2009. Since land owners become the applicants for redevelopment and government take the responsibility reviewing application, it relieves the hardship that the Interim Provisions created. With the reduction of government power, the Renewal Methods also shows its own shortage and limitation. In order to make best use of the process's advantage and try to avoid its shortage, the Interim Provisions' process and the Renewal Methods' process have been choose by government based on initial site situation. From 2010 to 2015, the introduction of the Renewal Methods has boosted the industrial land redevelopment. However even with the complementarity of these two processes, redevelopment policies are still not effective at controlling the building density and the public engagement is still missing. By adjusting the responsibility of City Hall, planning department and industrial department these two shortages could be solved. But the illegal land issue which deeply connected with Chinese land use policy still remains unsolved.

APPENDIX:

Interviews were scheduled with three people in Shenzhen between Jan 9th and Jan 14th. One was a Shenzhen Planner who had participated in a redevelopment project in Shenzhen. I asked the planner his comments about the redevelopment policy.

- From your prospective what special difficulties planners are facing when dealing with redevelopment project? Do you think the existing redevelopment policy has any shortage?
在您看来在进行城市更新项目时，规划师会面临哪些不同的挑战？你认为现有的城市更新政策有什么不足？
- What convenience did government provide in your project's redevelopment process? Do you think it is the influence of the change of redevelopment policy?
政府为城市更新项目提供了哪些便利条件？这些便利条件是否都是新的城市更新政策所带来的？
- As a planner working for developer, when making site plan for redevelopment project, do you think the planning guidance or zoning considered developer's demand? Is there any policy or guidance that set baseline for developer and ensure the improvement of public welfare?
- 作为与开发商合作的规划师，在进行城市更新项目的详细规划时，你觉得城市更新的规划指引或是控规对开发商的开发需求是否有一定的考量？有没有哪些政策确保了对生活环境的改善？

The second one was an officer in Shenzhen government's redevelopment department who were in charge of the implementation of redevelopment policy. The department's mission statement shows they are controlling the redevelopment permitting process.

- Is there any redevelopment policy before the Shenzhen Redevelopment Method? Compare to the previous policy what improvement do you think has been made in the new redevelopment policy?
当前的深圳城市更新政策是否是首创？相对于过去的城市更新政策而言新的城市更新政策的优势有哪些？
- From Shenzhen Redevelopment Method (SRM) I can see both government and individual can submit application for redevelopment permission. Is there any difference in these two applications' procedures? Is there any different requirement for government owned land and private owned land?
深圳市城市更新办法中提到政府和个人都可作为权利主体提出进行城市更新的申请。这两者的申请流程是否相同？对于国有土地和私人用地的城市更新申请是否有不同要求？
- In Shenzhen all privately owned land are rented from the government for 30-50 years. Are there any special procedure Shenzhen government provides in the redevelopment application to deal with lands that are close to their expiring date?

- 深圳的用地采用租赁的形式很多土地是使用期只有 30-50 年，对于这类用地的城市更新申请是否有些特殊的政策？

The last one was a senior planner in Shenzhen Department of City Planning. The planners had participated in the plan of redevelopment unit and proposing planning guidance related to industrial land redevelopment.

- What are the factors you are considering when identify those urban redevelopment areas government should encourage? From your prospective how do zoning and planning guidance cooperate with industrial policy and help promoting industry upgrading or transition through redevelopment?

在城市更新单元的划分中需要考虑哪些因素？他们是如何同深圳的产业政策结合，并在城市更新过程中促进产业升级和转换的？

- When making planning guidance or redevelopment unit plans how do you balance developers demand and the public welfare? How does this influence the zoning index?

在编制设计指引和城市更新单元规划时是如何平衡开发商与公众的利益？在这过程中对控规有了那些调整？

About the site visit, I went to Huaqiangbei IBZ and Bagualing IBZ to take photos and video. I also went to the Shenzhen Museum and the Shenzhen Public Library to collect old pictures and planning records.

	Jan 9 th	Jan 10 th (Sat)	Jan 11 th (Sun)	Jan 12 th	Jan 13 th	Jan 14 th
Morning	Arrival	Visit Shenzhen Urban Planning Museum and Shenzhen Public Library	Travel	Interview	Interview	Interview
Afternoon	Site Visit Huaqiangbei IBZ	Site Visit Bagualing IBZ	Travel	Interview	Interview	Leaving

Schedule was based on Beijing Time.

BIBLIOGRAPHY:

- Alonso, W. (1964). *Location and land use: toward a general theory of land rent*. Cambridge: Harvard University Press. Retrieved from <http://catalog.hathitrust.org/Record/001309660>
- Bourne, L. S. (1971). Physical Adjustment Processes and Land Use Succession: A Conceptual Review and Central City Example. *Economic Geography*, 47(1), 1–15. Retrieved from <http://www.jstor.org/stable/143220>
- Chan, Y. (2011). *Location Theory and Decision Analysis*. Berlin, Heidelberg: Springer Berlin Heidelberg. doi:10.1007/978-3-642-15663-2
- Chen, Z. (1980). *Encyclopedia of China*. (Z. Yuzhe, Ed.). Encyclopedia of China Publishing House. Retrieved from http://scholar.google.com/scholar?q=%E4%B8%AD%E5%9B%BD%E5%A4%A7%E7%99%BE%E7%A7%91%E5%85%A8%E4%B9%A6&hl=zh-CN&as_sdt=0%2C33&as_ylo=1970&as_yhi=1980#0
- Cheng, D. (2010). Huaqiangbei: The Shenzhen Sample of Growth & Transformation 华强北——深圳城市发展转型标本. *Urban Planning Reveiw*, 41(12), 21–23. Retrieved from http://www.upr.cn/mag/magazine_916.html
- Comprehensive Research Group, N. S. of D. P. U. (2014). Marketing Urban Renewal ---- Shenzhen's experience in resolving historical housing issue 更新城市的市场之门——深圳市化解土地房屋历史遗留问题的经验研究. *International Economic Review*, 03, 56–71.
- Ding, C. (2003). Land policy reform in China: assessment and prospects. *Land Use Policy*, 20(April 2002), 109–120. Retrieved from <http://www.sciencedirect.com/science/article/pii/S026483770200073X>
- Diniejk, A. (2010). Slums and Slumming in Late-Victorian London. Retrieved November 25, 2014, from <http://www.victorianweb.org/history/slums.html>
- Hsing, Y. (2010). *The great urban transformation: Politics of land and property in China*. Oxford University Press. Retrieved from <http://ideas.repec.org/b/oxp/obooks/9780199568048.html>
- Huang, W., Li, L., & Dou, F. (2013). 城市转型视角下的产业基地规划设计——以深圳市留仙洞产业基地为例 Planning Innovation Of Industrial Bases In Urban Transition: Liuxiandong, Shenzhen. *Planners*, 29(9), 129–133. Retrieved from http://d.e.wanfangdata.com.hk/Periodical.aspx?ID=Periodical_ghs201309024
- Huang, W., Mu, S., & Zhang, Y. (2011). Shenzhen Shangbu IBZ's Spatial Development Strategy Under New Circumstances---应对新形势——深圳上步工业区的空间发展探索. *Ideal Space*, 45, 18–23. Retrieved from http://www.360doc.com/content/12/0302/21/3706336_191217547.shtml#
- JIANG, W., CHEN, K., & MA, X. (2011). Study on the Spatial Production of Urban Renewal in China: A Case of Shanghai Xintiandi Square 我国旧城改造的空间生产研究——以上海新天地为例. *Urban Studies*, 10.

- Li, D. (2005). *Mega City's Industrial land Redevelopment-----a case study of Shanghai Yangpu Redevelopment*. (N. Yang, Ed.). Shanghai: Tongji Press.
- LTD., S. U. P. and D. C. (2012). *Urban Revitalization For North Area of Unit 1. Shangbu. Shenzhen 上步片区 [第一单元北区]*. Shenzhen.
- Ning, Y. (2000). THE STUDY ON THE LOCATION OF THE INDUSTRIAL SERVICE AND THE OFFICE BUILDING IN SHANG HAI 上海市区生产服务业及办公楼区位研究. *City Planning Review*, (8). Retrieved from <http://gb.oversea.cnki.net.ezproxy.cul.columbia.edu/KCMS/detail/detail.aspx?filename=CSGH200008009&dbcode=CJFD&dbname=cjfd2000>
- Roberts, P., & Sykes, H. (1999). Urban regeneration: a handbook. Retrieved from https://books.google.com/books?hl=zh-CN&lr=&id=oR70O6MayFAC&oi=fnd&pg=PP1&dq=Urban+regeneration&ots=8UzVde34r-&sig=ufS-ftLlhl5o_bjP829UnbQNHc
- Tao, Q. (2007). *Fu Street Modern "merchant tribe" 福街的现代商人部落*. Social Sciences Academic Press. Retrieved from <http://book.douban.com/subject/2015744/>
- Wang, J., & Ji, K. (2008). Empirical Research on the Intensive Use Level of Urban Land in China: Based on the Data of 34 Sample Cities. *Statistical Research*, 25(10), 52–56.
- Wu, N. (1994). *The old city of Beijing and its Juer Hutong neighbourhood 北京旧城与菊儿胡同*. China Architecture & Building Press.
- Yu, J. (2006). China Urban Renewal's Confusion and It's way out 中国城市更新的迷茫与出路. Retrieved October 26, 2014, from http://blog.sina.com.cn/s/blog_5715a19c0100045p.html
- Yu, K., & Pang, W. (2002). Understanding Design: Zhongshan Qijiang Park industrial site reuse 理解设计: 中山岐江公园工业旧址再利用. *Architectural Journal*, 08.
- Zacharias, J., & Bliet, D. (2008). The Role of Urban Planning in the Spontaneous Redevelopment of Huaqianbei, Shenzhen. *Journal of Urban Design*.
- Zhang, Y. (2004). URBAN REGENERATION:THEORY AND PRACTICE IN CHINA'S NEW URBANIZATION 城市再生:我国新型城市化的理论与实践问题. *Cheng Shi Gui Hua*, 28(4), 25.
- Zhou, T. (2005). A Study of Urban Planning Policy for the Urban Regeneration in the Old Industrial District 旧工业区城市更新策略研究. *Qinghua University*. Retrieved from <http://cdmd.cnki.com.cn/Article/CDMD-10003-2006066745.htm>
- Laura Wolf-Powers(2010), "Community Benefits Agreements and Local Government," *Journal of the American Planning Association* 76, 2 (2010):141-159.